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ABSTRACT

This study sought to determine whether there would be any significant difference in the scores on an English reading test between second and third grade Puerto Rican students in a bilingual program, and second and third grade students in the same school, but not in the program. The subjects, 160 predominantly disadvantaged Puerto Rican students, were described according to their reading readiness test scores, ages, grades, and sexes. The experimental group received bilingual reading instruction for two and three years respectively. The control group received instruction in English only. All subjects were administered the Test of Reading. The "t" tests revealed no significant differences between the experimental and control groups for both second and third grade. However, they did reveal that the boys in the experimental group received scores that were significantly higher than the scores of the boys in the control group. No significant differences was found among girls. The results of the study indicated that the program was partially successful in meeting the needs of bilingual students. (LL)

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THE EFFECTS OF AN ENGLISH-SPANISH PRIMARY-GRADE READING PROGRAM ON SECOND- AND THIRD-GRADE STUDENTS

A THESIS

SUBMITTED TO THE FACULTY

OF THE GRADUATE SCHOOL OF EDUCATION

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BY

HELEN HUZAR

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OF

MASTER OF EDUCATION

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CHAPTER I

INTRODUCTION

In recent years a revival of interest has focused on the problem of the bilingual child. Bilingualism is increasingly prevalent in our large metropolitan areas, in the rural areas of the Middle West, in the five Southwestern states, and in Hawaii. Various methods of teaching the bilinguals in different parts of the United States have been used. Unfortunately, there have been few carefully designed experimental studies concerned with trying to find the best methods that teachers can use to help bilingual children.

Background of the Problem

The preponderance of Mexican, Puerto Rican, and Cuban children throughout our country made the problem of educating Spanish-speaking children one of national concern. The poor scholastic achievement of large numbers of these children was reported by Trevino (1970), who also noted that all state and national studies placed them at the bottom of the academic achievement scale. To provide them with equal educational opportunities, it was necessary to construct a more flexible bilingual curriculum suited

to their needs. During the past 20 years, numerous programs employing a variety of methods had begun all over the country, particularly in the five states of the Southwest: Arizona, California, Colorado, New Mexico, and Texas. One such program in Webb County, Texas, described by Trevino (1970), had received state and national recognition for its success in instructing Spanish-speaking children in Spanish and English. Results of the study supported the proposition that the solution to the Spanish-speaking child's low scholastic achievement might lie in the use of Spanish in his primary-grade instruction.

The idea for the present study, which was conducted in the Perth Amboy, New Jersey, school system, was inspired by the Webb County program, with certain similarities and differences. Both bilingual programs in their first year were initiated in the first grade, and in the following two years added second and third grades. Both programs used English and Spanish for communication and instruction. Equal time periods were allotted to instruction in each language. However, in the Webb County school, instruction was given in each language using translations of the same material. In the Perth Amboy school, an English text and a Spanish text were used, but they were not exact translations of each other. Both programs had bilingual primary-grade teachers; however, in the present study there

were both an English-monolingual teacher and a Spanish-English bilingual teacher in two of the experimental classes. In the Webb County school, only Spanish-English bilingual teachers taught in the program. Another difference was that the Texas school had groups that were evenly divided between the English monolinguals and the Spanish monolinguals, while in Perth Amboy most of the children in the bilingual classes were Spanish-English bilinguals or Spanish monolinguals. In both programs, the children were provided the opportunity to help each other learn a second language. When instruction was conducted in English, everyone spoke English. When instruction was conducted in Spanish, everyone spoke Spanish.

Overlooking these variations, it was still apparent that both programs supported the belief that the only solution for helping Spanish-bilingual children was to instruct them in their native tongue, as well as standard English. Each child was able to acquire a second language in natural and meaningful learning experiences.

Statement of the Problem

The purpose of this study was to determine whether there would be any significant differences in the scores on an English reading test between second- and third-grade students in the Perth Amboy bilingual program and second-

and third-grade students in the same school, but not in the program.

Statement of the Hypotheses

The hypotheses of this study were:

1. There will be no significant difference between means in total reading scores on the Test of Reading: Inter-American Series between second-grade students in the bilingual program and those not in the program.

2. There will be no significant difference between means in total reading scores between third-grade students in the program and those not in the program.

3. There will be no significant differences between means in total reading scores between experimental and control groups when boys are compared with boys and girls are compared with girls.

4. There will be no significant difference between means in total reading scores between second-grade students in a bilingual class having two bilingual teachers and those in a bilingual class having one bilingual and one monolingual teacher, the students having been assigned to each class on a random basis.

5. There will be no significant difference between means in total reading scores between third-grade students in a bilingual class having two bilingual teachers and those in a bilingual class having one bilingual teacher

and one monolingual teacher, the students having been assigned to each class on a random basis.

Importance of the Study

It has been reported by Arnold (1968) that a major concern of educators today is the large number of Spanish-American children who are disadvantaged. In Texas the problem is statewide. Past records collected by the Texas Education Agency (1962) indicate that up to 80% of these children repeat the first grade due to their inability to read. The Eastern metropolitan areas of this country are faced with a similar problem, specifically with Puerto Rican and Cuban children, a large number of whom are also disadvantaged. Educators throughout the country have devised several approaches to remedy the problem of providing the bilingual student with a curriculum designed to meet his particular needs. In order to discover which, if any, of the programs are approaching a solution, it is necessary for researchers to study them carefully and report their findings. Unfortunately, the amount of research in this area is lacking, thus making it difficult to assess the success of many bilingual programs. The present study proposes to examine one particular program, small though it may be, in an attempt to justify the time, money, and efforts being spent to solve the recurring problem of the

Spanish-bilingual child's failure in the traditional American educational system.

Definitions of Terms

The term "bilingualism," as it was used in the present study, was defined by Leopold (1939) as the learning of two languages alternately and eventually concurrently.

From Tan's (1947) definition of four types of bilingualism, the political type was most relevant to the present study. His definition states that the minority group is compelled to learn the language of the majority group where both groups live in the same political unit. This was the case in the school in the present study.

In addition, a study of bilingual elementary schooling made at the University of Texas Institute (1968) defined bilingual education in a Spanish-speaking area as that form of schooling which used both Spanish and English as media of instruction.

These definitions aptly describe the bilingual program in the Perth Amboy school system.

Limitations of the Study

This study was confined to one school, because it was the only one in the district that had a bilingual program. The population of the school comprised 721 students,

and the number of second- and third-grade students in the study was 160.

Ideally, the investigator would have liked to administer a reading readiness test herself. However, because the program started three years ago, she did not have an opportunity to do so. Therefore, previously administered test scores had to be used.

Intelligence-test scores were available for third-grade students only, because in the Perth Amboy school system intelligence tests were not administered until the third grade. Permission was denied the investigator to administer intelligence tests to second-grade students.

The suitability of both the Metropolitan Readiness Test and the Lorge-Thorndike Intelligence Test for bilingual and disadvantaged children was questionable.

Ideally, the same textbook series should have been used in both groups. However, the experimental group used a linguistic series in English and Spanish, while the control group used another series in English only.

Overview of the Study

The remainder of the study is organized into four chapters. Chapter II presents some related research dealing with the definition of bilingualism, the time when a second language should be introduced, the methodology of a bilingual curriculum, and previous studies done on

bilingual programs. The population in the study, administration of tests, procedures, and the statistical design are described in Chapter III. The results of testing, which are shown in Chapter IV, are used to answer the questions implied in the hypotheses. A summary of the findings and conclusions are presented in Chapter V.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this chapter is to survey the literature that is related to the present study. It will include a definition of bilingualism, appropriate timing for beginning second-language instruction, bilingual curricula and previous experimental studies, dating prior to World War I up to the present day.

The problem of teaching the Spanish-bilingual student to read, write, and speak English has come into prominence only within the last two decades. Particularly with the advent of the Bilingual Education Act of 1967, bilingual programs were started in large urban communities on the east coast, as well as many rural communities in the Southwest.

Singer (1956) reported that the trend toward teaching a foreign language in the elementary school was encouraged by Dr. Earl McGrath at the Annual Meeting of the Central States Modern Language Teachers Association in 1952 and again at the first nationwide Conference on the Role of Modern Languages in American Schools in 1953. Van Eenenaam (1954), who reported this trend, noted that 54

new programs of foreign language instruction in the elementary school began in the fall of 1953.

Definition of Bilingualism

One major difficulty in assessing the language status of Spanish-speaking children was the practice of labeling such children "bilingual" with little reference to its meaning. Ching (1965) pointed out that some people thought of a bilingual as an equilingual, that is, a person who could perform proficiently in all aspects of both languages. This is not the case. A bilingual's achievement might be limited to one aspect of a language such as understanding, speaking, reading, writing, or he might have varying degrees of ability in all these aspects. In the Perth Amboy school, it was hoped that bilingual instruction would improve the students' knowledge of the reading, understanding, writing, and speaking of English. The proficiency of the students in each area would vary according to ability.

O'Doherty (1958) defined bilingualism as the equal mastery of two languages. The question arose whether bilingualism was limited to only two languages. Haugen (1956) believed it was not and used the term "polyglottism" to mean more than two languages.

Jensen (1962) has outlined a series of 11 differing concepts of bilingualism as defined by authors in the

literature. Tan (1947) defined four types of bilingualism: (a) social--a second language is learned because of the close association of two peoples; (b) political--the minority group is compelled to learn the language of the majority group where both groups live in the same political unit; (c) colonial--the conquered majority is compelled to learn the language of the conquerors who constitute a minority of the population; and (d) cultural--a second language is needed in order to learn new ideas written in another language. Although the social, colonial, and cultural types of bilingualism were all interrelated in the present study, it was the political aspect that was the most relevant. The school systems of New York and the Southwest represent prime examples of the situation which exists in Perth Amboy.

The confusion of meanings for "bilingualism" was pointed out by Robinett (1965) when he contrasted three "bilingual" classmates: one who spoke two languages, another who spoke one language which was not English, and a third whose parents were foreign-born and who spoke English only--but with a nonstandard dialect. In another definition, Lambert (1963) stressed the need to account for individual differences by developing the terms "bilingual balance" (referring to the demonstration of equal skill in two languages) and "linguistic dominance" (greater

facility in one of two languages).

The complexities involved in use of the term "bilingualism" served as a source of confusion and misunderstanding when Spanish-speaking pupils were so classified "en masse." Thus, the need for careful and systematic means for understanding the language status of a given child was an area of major concern in establishing language programs for Spanish-speaking children.

Initiation of Second-Language Instruction

Opinions differed considerably on the merits of beginning a foreign language at the elementary school level. More specifically, the issue has been at what age to begin instruction in a second language. Most authors insisted that it should not be taught until the native language was firmly established. Virtually all agreed that by the age of 8 the normal child has acquired all the essential aspects of his native tongue. Some authors put it at even an earlier age. Haugen (1956) felt that by the end of the fourth year all the basic elements of the language structure had been mastered. Fisher (1934) and Carroll (1960) were of the opinion that by the age of 6 the child had acquired all the ordinary speech patterns used by the adults around him. Most seemed to agree that a second language to be taught in the conventional formal classroom manner should begin between the ages of 8 and 10.

Many researchers recommended that the native tongue, not the second language, should be used as the medium of instruction in the early grades.

The negative effects of simultaneous learning of two languages, particularly when the second language is introduced too early and conflicts with the native tongue, were pointed out by Coale and Smith (1937). Smith (1949) measured the vocabulary of bilingual children of Chinese ancestry, ages 37 to 72 months, in both languages. She found the average vocabulary of bilingual children in either the Chinese or English language was far below the English vocabulary of English-monolingual children. Smith concluded that it appeared to be unwise to start children under 6 years of age in a second language unless they were above average in their linguistic ability. This ability could only be determined after progress in the child's first language was evaluated.

Children who immigrated to this country or whose vernacular was not English required several years of exposure to English to acquire a vocabulary that was comparable to their mental age. Terman (1918) reported that the median vocabulary of bilingual Portuguese students in his study did not equal their mental age until age 12. Presuming that Terman's sample was representative of bilinguals, this evidence suggested that a language handicap

existed for most immigrant or bilingual children in the United States throughout their elementary school years. More recently, Singer (1956) pointed out that the consensus was that the optimum age for beginning a second language was after the primary years and before completion of the intermediate grades. Persky (1954) discussed a "bilingual period" between ages 6 and 11 years in which learning could occur with minimal resistance, self-consciousness, comparisons to mother-tongue, and mental shock.

The vocabulary handicap of most bilingual children, resulting from inadequate timing of second language instruction, probably accounted for the adverse effect in their mental ability scores on verbal tests of intelligence. Kittell (1959) attempted to determine differences in third-grade bilingual children as compared to unilingual children in performance on the California Short-Form Mental Maturity Test. In the evidence gathered, bilinguals scored lower on the language section of the test than did unilingual children. No difference was found on the nonverbal section of the test. In a follow-up study involving fifth-grade unilinguals and bilinguals, Kittell (1963) concluded that the handicap of intelligence for the bilingual group was significantly less important at the fifth-grade level than at the third-grade level. Although it did not surpass the unilingual group, the verbal ability

of the bilinguals not apparent in third grade was revealed by the improved performance of bilinguals on the language section of the test in the fifth grade. This finding supported the hypothesis that second language instruction should begin in the primary grades.

Curiously, it was noticed that when studies of bilingual children were done in rural areas, a language handicap was reported; when studies were done in urban areas, no language handicap was found, with few exceptions. Tan (1947) found that in places where the second language was dominant, the children acquired the dominant language and forgot their parental language, so that their test performance in the dominant language increasingly revealed less of a language handicap. Thus, children in New York City might not be linguistically handicapped. However, in the Southwest, where the first language--Spanish--is dominant, but the second language--English--is the medium of instruction, the children showed a language handicap throughout the grades. In Puerto Rico there was no handicap in the first four grades where Spanish was the medium of instruction, but a handicap did begin to appear after a switch was made to English as the medium of instruction for grades 5 through 8.

While there is some evidence that "bilingual" children tend to catch up with unilinguals at around age

13, the effect of this lack of English language can be considered to be a critical part of the school problems that these children have been made to face. Because of this, some writers, such as Carroll (1960), supported the view that for children who are required to learn English as the language of instruction in school, the younger the child, the better and faster he will learn English.

The time for teaching a second language appeared to be uncertain. It did not seem desirable to force a second language on children not yet ready for such an experience. In particular, the linguistic readiness of Spanish-speaking disadvantaged children for instruction in a second language could be hypothesized to be low. Thus, the inadequate timing and handling of the development of English in Spanish-speaking children could contribute towards the creation of a type of bilingual, who is inadequate in English, insecure in his own language, and probably lacking in general verbal development as well.

Methodology of a Bilingual Curriculum

Bilingual schooling has often been confused with the Teaching of English as a Second Language (TESL), in which it is suggested that, ideally, the same range the student commands in his first language should be established in the second. Teaching English as a second language involves no single or simplistic methodology. As

Allen (1965) has indicated, criteria for teaching English as a Second Language must include consideration of teaching spoken English, English structure, English vocabulary, English writing, and English reading and literature. As reported by Rosen and Ortego (1969), many proponents of TESL still considered English the only proper medium of instruction, whereas the advocates of bilingual schooling contended that the mother tongue is the best initial medium of education, to be combined with the learning of English as a second language.

The difficulties inherent in the various attempts to teach English to Spanish-speaking children and effects of efforts to push these children into English-medium reading programs have long been observable. Both educational and psychological damage have occurred. Studies by Kaufman (1968) and Modiano (1966) have demonstrated the effectiveness of reading programs utilizing materials written in the native language with some evidence of transfer of this learning to reading in the national language or language of the school. Moreno (1967) and Rodriguez (1968) have called for the expansion and acceleration of this concept throughout the Southwest. The Bilingual Education Act was passed by the 90th Congress in order to provide appropriations for improving the linguistic deficiencies not only of Spanish-speaking children

but of all children from non-English-speaking homes. Such programs have been experimental, rare, and available only to a few children up to this point.

Even before the Bilingual Education Act became law, bilingual programs began appearing. Gaarder (1967) defined a bilingual school as a school which uses, concurrently, two languages as media of instruction in any portion of the curriculum. Reasons for adding the mother tongue as a teaching medium were (a) to avoid or lessen scholastic retardation in children whose mother tongue is not the principal school language, (b) to strengthen the bonds between home and school, and (c) to develop strong literacy in the mother tongue in order to make it a strong asset in the adult's life. Reasons for adding a second tongue as a teaching medium were (a) to engage the child's capacity for natural unconscious language training, (b) to make the second language a means to an end rather than an end in itself, and (c) to increase second language experience without crowding the curriculum.

For sound pedagogical reasons, therefore, our curriculum should be reviewed, studied, and revised as necessary. The course of studies should initiate the bicultural, bilingual child into the culture and language of the United States, while also developing his knowledge of the family culture, traditions, and skills in his native language.

Early Research

Unfortunately, though many educators have recognized the need for special methods to teach bilingual children, there has not been much carefully controlled experimentation in this area. Even though this interest in bilingual education seemed to appear rather suddenly, there is evidence of concern that goes back 40 years. Between 1937 and 1942, Arsenian (1937) and Bain (1942) estimated that 25% of the school population in the United States was bilingual. During this time, Arsenian (1937) estimated that New York City was 60% bilingual. The five southwestern states of Arizona, California, Colorado, New Mexico, and Texas were reported by Lynn (1945) to have 1,571,000 Spanish-speaking people in 1940.

Many observers asserted that bilingualism was a handicap to the child, while others claimed it was an asset. Much has been written asserting that childhood bilingualism resulted in many disadvantages: handicaps in speech development, overall language development, intellectual and educational progress, and emotional stability. Only when one language becomes dominant do the detrimental effects tend to decrease. Smith (1935), who had done extensive work on preschool language development in Hawaiian children, observed that when the child heard both languages from the same source and changed from one language

environment to another, especially from a unilingual to a bilingual environment, there was a period of mental confusion until he forgot one of the two languages. She concluded that when the bilingual children whom she studied entered school, they were about the level of 3-year-old unilingual children in the development of language.

A detailed analysis by Lynn (1945) of the English spoken by a group of Spanish-speaking children in Arizona showed handicaps in speech development. She concluded that these handicaps were due to the fact that the early influence of Spanish had become well established. Tireman (1945) gave an indication of the adverse effect that bilingualism might have on a child's reading vocabulary. Differences in the phonemic structure of the two languages--Spanish and English--were the cause for many errors in the children's responses when pronouncing and explaining the meaning of words.

Virtually all authors agreed that an individual cannot learn both languages equally well, for some linguistic interference was bound to occur. Many scholars insisted that the disadvantages of childhood bilingualism either did not exist or were not as serious as some would claim. Some authors claimed that problems in speech development were not as great as had been suspected. McCarthy (1954) and Becky (1942) concluded that bilingualism was no

serious handicap in speech development. Meriam (1937) asserted that the child with verbal facility was not harmed. Leopold (1939) reported that in the case of his daughter, possessing a limited command of a second language did not necessarily affect the mastery of the first language.

Pintner (1932) concluded that the language handicap would be greatest in the first grade but would diminish from that point, the rate being determined by the individual's intelligence and his opportunity to mingle in an English-speaking environment. Some evidence by Arsenian (1945), Manuel and Wright (1929), Smith (1957), and Tan (1947) suggested that the bilingual child tended to catch up, so that by about the age of 13 his vocabulary equaled that of the unilingual.

Carrow (1957) reported that there was no detrimental effect on the bilingual's ability in spelling, total verbal output, clause length, or complexity of sentence structure. Concerning the intellectual growth of the bilingual child, Pintner and Arsenian (1937) found no intellectual handicap in a group of sixth- and seventh-grade bilinguals. After surveying many of the studies, Weinreich (1953) concluded that the majority of experimenters deny the allegedly evil effects of bilingualism on mental development.

After examining almost a hundred studies made in the United States and abroad, Arsenian (1937) concluded that bilingual children, as compared with unilingual children of the same age and environment, were neither retarded nor accelerated in their mental development particularly when the two groups were compared on non-language tests of intelligence.

Though many of the modern programs have only just recently appeared, research on earlier, pioneer programs was reported prior to World War II. For example, Fuller (1936) examined the results of a four-year study in which children in the kindergarten of the Grant School in San Jose, California, were given special language training activities emphasizing the understanding and speaking of English. Results showed that the experimental group made fewer failures in the first grade and better reading scores when tested after three years of schooling than those without training. However, because the groups were small and the children were not equated on intelligence, it was difficult to interpret the findings.

A larger, more carefully planned study, reported by Fuller (1936), was the San Jose Experimental School study. Carried on for over a period of eight years in New Mexico, the subjects were 2,312 Spanish-English bilingual pupils in the first through eighth grades who received

special emphasis in reading and oral English. Two control schools with similar enrollment and general background, but no special training, were also tested. Results showed that the San Jose school was superior by differences that were statistically significant. However, once again, it was difficult to interpret the findings because data concerning intelligence were not presented.

In another study in New Mexico, Herr (1946), like Fuller, was interested in the effect of pre-first-grade training in English-Spanish vocabulary development on the bilingual child's achievement in later grades. This study was an improvement on Fuller's because Herr attempted to equate the children in vocabulary ability, home environment, chronological age, and intelligence. The control group did not attend school and received no special training, while the experimental group attended school and received training in vocabulary development. The data showed that the control group attained a grade level of 1.5 or below in reading, while in the experimental group 20% scored 2.1 or over, 67% had 1.9 or over, and not one received below 1.5. Herr concluded that pre-first-grade bilingual training for Spanish-American children gave them a decided advantage over those who do not receive such training, and that such training could eliminate a large percentage of failures in the lower grades.

The work of Manuel (1965) and Tireman (1951) in the Southwest led to the conclusion that preschool or kindergarten instruction was an important part of the process of teaching English language skills to Spanish-speaking children. After finding that Spanish-speaking children in the second grade did not read silently as well as their English classmates, Steuber (1940) explained that Spanish bilinguals cannot be expected to achieve similarly if the same methods of instruction continue to be used for both groups. Meriam (1937) reported that La Jolla School in Placenta, California, adapted its curriculum to its Mexi-an-Spanish population where English was first taught only by the "incidental" method. Thus, Meriam discovered that adapting the curriculum to the special requirements of bilingualism tended to facilitate school achievement and to diminish effects of a language handicap.

A Puerto-Rican Study in 1953-57, conducted by Morrison (1958) examined different methods of teaching bilingual children. One-half hour of teaching English to Puerto Rican pupils was given to each experimental class. Unfortunately, no control group was used and intelligence was not measured. The pupils might have made gains in English without the special instruction and emphasis on teaching English and the intelligence variable might have had an influence on the findings.

Recent Research

Spanish-speaking children constitute the largest number of non-English-speaking students enrolled in schools in the United States. According to the United States Office of Education, as of the fall of 1968, there were 2,002,776 Spanish-surname students enrolled in the elementary and secondary schools in the United States. Within this great number were two major ethnic groups--Mexican-American, found mainly in the Southwest, and Puerto Rican, with the major concentration in the greater New York area.

According to Ximenes (1968), approximately 7 million Spanish-Americans, mostly of Mexican descent live in a five-state area of Arizona, California, Colorado, New Mexico, and Texas. Roughly, one-sixth of the school-aged population in this area is Spanish-speaking as reported by Manuel (1965). Ximenes (1968) pointed out that their drop-out rate is more than twice the national average. Estimates of the average number of school years completed by Spanish-speaking pupils in the Southwest (7.1 years) were significantly below figures of Anglo children (12.1 years) and Negro pupils (9.0 years) and was more than suggestive of the educational problem of these people. Such was the record when Spanish-speaking children were taught exclusively in English. Would this record change if these children were instructed in Spanish and English? The

following studies tried to find the answer.

Of the studies located, a few reported by Condie (1961) and Goodman (1965) revealed significant differences favoring experimental bilingual groups in language functions, readiness tests, and reading achievement. Robinett (1965) has described a beginning reading program designed specifically for "bilingual pupils." The program was strongly influenced by structural linguistics and concerned itself with aural-oral development in English.

A study of seventh-grade students involving science and Spanish reported by Raisner (1967) was undertaken to determine the educational effects of a language maintenance program using Spanish as a medium of instruction. The experimental group achievement was found to be superior in science and Spanish, as well as English reading ability.

Ching (1963) reported a remedial English program that was carried on with 246 third-grade Hawaiian-bilingual children over a period of six months. The experimental group received lessons that were devoted to the correction of a specific type of error in usage: oral drills with sentences, dramatizations, stories, and games which gave the children practice in the correct use of the words being emphasized. The lessons were primarily oral in nature. The experimental group was significantly superior to the control group in reading and English language

ability, and only the experimental group made a significant gain in oral English.

A study in 1964 that focused on the skill of reading in English was reported by McCanne (1966). He hypothesized that there would be no difference in achievement in reading English in first grade between pupils who speak Spanish at home and are taught (a) by a basal reader approach, (b) by a modified "English as a Second Language" approach, or (c) by a language-experience approach. It was discovered that the experimental approach that developed the highest achievement in reading skills was the basal reader approach. A combination of the "English as a Second Language" and the language-experience approach was shown to have particular strengths in oral vocabulary and writing fluency and were recommended as supplementary approaches for the developing of language skills other than reading with Spanish-speaking first graders.

Modiano (1966) undertook a study of Indian children in Mexico to determine whether reading comprehension in the national language could be achieved more effectively by members of linguistic minorities when all reading instruction was offered in that language, or when they first became literate in their mother tongue. Results supported the fact that children of linguistic minorities learned to read with greater comprehension in the national

language when they first became literate in their mother tongue, rather than when they received all reading instruction in the national language.

Horn (1966) compared the effectiveness of three methods of developing reading readiness in Spanish-speaking boys and girls in grade one: (a) oral-aural English, (b) oral-aural Spanish (all teachers of this treatment spoke both Spanish and English), and (c) no oral-aural treatment. There were no significant differences in mean scores when comparing differences among all three treatments. The large number of zero scores attained on the instruments used in the testing clearly demonstrated the inappropriateness of most available standardized tests for the project population.

A study by Trevino (1970) described a bilingual program in Webb County, Texas, which began to teach first grades bilingually in 1964 and extended by 1966-67 to the three primary grades. Each child was taught bilingually and thus was able to acquire a second language in natural and meaningful situations provided by normal learning experiences. There was found a marked improvement from the first grade, and dramatic improvement by the end of the third year of bilingual instruction. This research supports the proposition that the solution to the

Spanish-speaking child's low scholastic achievement may lie in the use of Spanish in his primary grade instruction.

Summary

The purpose of this chapter was to review the literature dealing with such topics as the definition of "bilingualism," timing of second language instruction, bilingual curricula, and early and recent research concerning bilingual programs. Many researchers attempted to define "bilingualism" with the result that there were as many definitions as there were researchers. However, there were certain points on which many were in agreement. Virtually all rejected the idea that the "bilingual" person was not one who could perform proficiently in all aspects of both languages. Rather he was one who could perform proficiently in one or several aspects of each language. Thus, the complexities involved in trying to find the correct definition had compounded the problem of formulating meaningful programs for Spanish-speaking pupils.

There was considerable difference of opinion concerning the proper time for beginning a second language. Most agreed that the best years conducive to second language instruction were the primary grades. Consensus of opinion was that children around the ages of 5 and 6

would learn the second language better.

In a discussion of the methodology of a bilingual curriculum, the bilingual and TESL programs were contrasted. Primarily, the difference between them was that the bilingual programs believed that first the native tongue should be used as the medium of instruction, followed by a slow and careful introduction to English, while the TESL programs believed that English was the best medium of instruction. Many writers recommended that the mother tongue, and not the language of the school, be used as the medium of instruction. Some evidence was found that some part of what was learned in the native language was transferred to the language of the school.

Earlier research seemed to emphasize the disadvantages of "bilingualism" to the child: handicaps in speech development, and interference with intellectual and educational advancement. However, later literature contended that definite advantages in the above categories were to be experienced, or that the disadvantages had been exaggerated or were nonexistent. It was pointed out that as early as 1936, pioneer programs were initiated to help the bilingual child.

Recent research pointed out the problem of the bilingual child, particularly the Mexican-American and Puerto-Rican population. Their surprisingly large number,

large drop-out rate, and below-average years of school attendance were cited. Results of recent experiments showed that the majority of the programs, utilizing English and Spanish for instruction, were succeeding in various degrees to help the bilingual child to overcome his language difficulties throughout the country.

CHAPTER III

PROCEDURE

The purpose of this study was to determine whether there would be any significant differences in the scores of an English reading test between second- and third-grade students in the Perth Amboy bilingual program, and second- and third-grade students in the same school, but not in the program. This chapter will describe the subjects in the study, administration of the tests, reviews of the tests, and the statistical design used to present the data.

Subjects

According to the 1970 census, Perth Amboy has a population of 38,798 people, of which approximately 11,000 are Spanish-speaking, 2,700 are black, and 25,098 are white. The school population consists of 41% Spanish-speaking, 13% black, and 46% white.

The 160 subjects involved in the study came from the Spanish-speaking segment of the population in a section of the city which was classified as disadvantaged. The majority of parents of these subjects were blue-collar workers, many of whom were on welfare.

One school in the disadvantaged area of the city

began a bilingual program in the first grade in 1969. Forty-one Spanish-speaking second-grade students who had received two years of bilingual instruction and 43 third-grade students who had received three years of bilingual instruction comprised the experimental group. The control group comprised 40 Spanish-speaking second-grade students and 36 third-grade students of similar background in the same school who were in first grade the same time as the experimental group, but who did not receive bilingual instruction.

In the experimental group, the mean age of second-grade students was 101.08 months and the mean age of third-grade students was 115.28 months. In the control group, the mean age of second-grade students was 102.80 months and the mean age of third-grade students was 112.97 months. The mean I.Q. of third-grade students in the experimental group was 92.1; the mean I.Q. for third-grade students in the control group was 90.0.

The Test of Reading: Inter-American Series was administered to eight classes from one public elementary school in Perth Amboy. Four classes were in the bilingual program (two second and two third grades), comprising the experimental group. Four classes were not in the program (two second and two third grades), comprising the control group.

When the program was initiated in 1969, the subjects were randomly assigned to either bilingual or regular classes, which remained intact throughout the primary grades. Appendix A gives a description of the eight classes included in the study according to grade and sex.

The bilingual or experimental second- and third-grade students had received instruction in both English and Spanish for two and three years, respectively. Instruction in each of the four experimental classes was given by two teachers. In one experimental second grade, one bilingual teacher gave reading instruction to the class in Spanish for 45 minutes each day, while the monolingual teacher gave reading instruction in English for the same period of time each day. The procedure was the same for one of the experimental third grades. In the other experimental second and third grades, there were two bilingual teachers in each grade. The procedure, however, was the same. One bilingual teacher instructed in Spanish for 45 minutes and the other bilingual teacher instructed in English for the same period of time each day.

The control group consisted of Spanish-speaking pupils who were instructed in reading by an English monolingual classroom teacher in English, only, for 45 minutes each day. All teaching procedures, quality of materials, and time periods for reading instruction were the same,

with the exception that the experimental classes received instruction in both Spanish and English, with corresponding textbooks. The reading text for control classes was the 1968 edition of the Scott-Foresman Open Highways series, while the experimental classes used the 1970 edition of the Miami Linguistic Readers. Sample pages of the texts used by the experimental group are contained in Appendix D.

Administration of Tests

The investigator collected the data on the Metropolitan Readiness Test (Hildreth, Griffiths, & McGauvian, 1964), which had been previously administered. She also collected the data on the Lorge-Thorndike Intelligence Test (Lorge & Thorndike, 1954-1962), which had been administered to the third-grade students in February 1972. In the Perth Amboy school system, intelligence tests were not administered until the third grade, and permission was denied the investigator to administer her own I.Q. tests. Therefore, second-grade intelligence test scores were not available.

The posttest was the Test of Reading: Inter-American Series (Manuel, 1962-1967), which the investigator administered over two consecutive days, May 17, 1972, and May 18, 1972. A sample of this test is contained in Appendix C. The classroom teacher served as proctor in

each room, while the investigator administered the tests herself. Each class was tested in its own classroom. The tests were hand-scored by the investigator and double-checked for accuracy by another teacher.

Description and Reviews of Tests

In the following section, the tests used in this study are described.

Dykstra (Buros, 1972) reviews the Metropolitan Readiness Test as an instrument that provides teachers with information helpful in determining readiness of pupils for first-grade instruction. When compared to other readiness tests, he ranks it among the best. Split-half reliabilities for total score range from .90 to .95, indicating very satisfactory reliability. Alternate-form reliability for total score was .91.

Singer (Buros, 1972) reports that teachers should be aware that bilingual children are likely to be handicapped on the Metropolitan Readiness Test even when given in the other language, because bilingual children tend to be deficient in both languages.

Freeman (Buros, 1959) ranks the Lorge-Thorndike Intelligence Tests among the best instruments for measuring intelligence. Alternate-form reliability ranged from .76 to .90 at all levels. The odd-even reliability ranged from .88 to .94 at all levels. Although the test appears

to be reliable, there is some question whether it is a valid indication of I.Q. for disadvantaged children.

The Tests of Reading: Inter-American Series is a series of parallel reading tests in English and Spanish. It has been designed to provide comparable measures of reading competency in these languages for use in bilingual communities. The edition used in the study was a 1962 version of the still-in-print 1950 edition, Tests of Reading: Cooperative Inter-American Tests.

In Level 2, Primary, which is designed for the second half of second grade and third grade, there are five subtests: vocabulary, comprehension (level, speed, total), and total. Each vocabulary item is a picture followed by four words, and each comprehension item contains four pictures followed by verbal context. Time for administering the test is 23 minutes. The test is 16 pages in length. It is clearly printed and the art work for the primary test is adequate for clarity.

Adams (Buros, 1972) points out that most of the criticism of the 1950 series made by Orleans and Westover (Buros, 1953) does not apply to this revision. The 1950 series was criticized for using exact translations of English into Spanish, with no supporting evidence for the validity of this approach. In preparing this series, the Spanish edition was revised in order to approach more

nearly the ideal of expressing in standard Spanish the same content as in English.

While the earlier series provided no data on reliability and validity, considerate data are provided in the current series. The median alternate-form reliability for the English edition is .82 for subtests, and .90 for total scores.

In general, the validity of the test is good. Regarding content validity, the test items successfully determine a child's learning of reading at each level and provide representation of these skills in the tests. There is evidence in the manual that the tests provide information that is consistent with the Metropolitan Reading Test and the Stanford Achievement Primary II, Reading Test. Perhaps, most importantly, there is evidence that these tests do, in fact, indicate whether pupils will get along well in reading achievement, as determined by studying the relationship of test scores administered early in the year and test scores administered at the end of the year.

Test items have been written competently. Great care has been exercised to see that the Spanish translation is comparable to the English in both content and difficulty. Results from a preliminary administration were used in item analysis; items were selected in terms of difficulty values and discrimination indices.

Statistical Design

In order to show the equality between the experimental and control groups, the investigator examined the scores of the Metropolitan Readiness Test and the Lorge-Thorndike Intelligence Test by compiling t tests. Results showed that there were no significant differences between groups. A letter was obtained from the principal of School #10 stating that when the program was initiated, the students were assigned to each class on a random basis. This letter is found in Appendix B.

The Test of Reading: Inter-American Series was administered to four second-grade classes and four third-grade classes during the 1971-1972 school year.

The posttest-only control group design was used:

$$R_1 \quad X \quad O_1$$
$$R_2 \qquad O_2$$

R_1 represents the experimental group that was initially assigned on a random basis. R_2 represents the control group that was initially assigned on a random basis. X represents the treatment that was given to the experimental group. O_1 represents the posttest that was given to the experimental group. O_2 represents the posttest that was given to the control group.

A pretest is an important concept in the thinking of research workers in education. The posttest-only

control group design is greatly underused in educational research because it does not include a pretest. However, as Campbell and Stanley (1963) point out, the pretest is not actually essential to true experimental designs. Randomization can suffice without the pretest. Often in the primary grades, testing is done on entirely new subject matter recently introduced for which pretests in the ordinary sense are impossible. Many problems exist for which pretests are unavailable, inconvenient, or awkward. The posttest-only control group design has the advantage of avoiding an experimenter-introduced pretest session, and in avoiding the "giveaway" repetition of identical or highly similar content that occurs in a pretest-posttest control group design. For these reasons, this design was used in the present study.

Campbell and Stanley (1963) also state that the posttest-only control group design is perhaps the only setting for which the *t* test is optimal. In the present study, the *t* test was used to determine any significant differences between means of reading scores. Results of the *t* tests used in the study are presented in Chapter IV.

Summary

Subjects for this study were selected from the second- and third-grade levels of a public elementary school in a disadvantaged area in Perth Amboy, New Jersey.

The results of the Metropolitan Readiness Test and the Lorge-Thorndike Intelligence Test were collected to insure equality of the sample groups. For obtaining data which could be subjected to statistical analysis, the subjects were administered the Test of Reading: Inter-American Series. These test results were subjected to *t* tests to determine any significant difference in reading performance between the experimental and control groups.

CHAPTER IV

FINDINGS AND DISCUSSION

This study attempted to show whether there would be any significant differences in the scores on an English reading test between second- and third-grade students in the Perth Amboy bilingual program and second- and third-grade students in the same school, but not in the program. For the purpose of analyzing data, *t* tests were used.

Results

Difference between second-grade experimental and control groups. The first hypothesis raised the question of a significant difference between means in total reading scores between second-grade students in the bilingual program and second-grade students not in the program. Table 1 shows no significant difference between the experimental and control groups ($t = .0628$, $df = 79$; $p < 0.05$). Since no significant difference in reading achievement between the groups was found, the first hypothesis was not rejected.

Difference between third-grade experimental and control groups. The second hypothesis was concerned with a significant difference between means in total reading

scores between third-grade students in the program and those not in the program. Table 2 shows no significant difference between the experimental and control groups ($t = 1.3844$, $df = 77$; $p < 0.05$). Since no significant difference in reading achievement between the groups was found, the second hypothesis was not rejected.

Differences between groups, when boys are compared with boys and girls are compared with girls. The third hypothesis raised the question of significant differences between means in total reading scores between experimental and control groups when boys are compared with boys and girls are compared with girls. Table 3 shows that the mean raw score of the boys control group was lower than all the others. In order to discover if, in fact, it was the boys control group that was significantly lower than all the others, a Scheffé Contrast was performed. No significant difference was found. Because the Scheffé is a conservative method, a t test was also performed between the mean scores of the boys control and boys experimental groups. From Table 3 it can be seen that there was a significant difference when boys were compared with boys ($t = 2.02$, $df = 82$; $p < 0.05$). By inspection of the means for girls, there was no significant difference when girls were compared with girls. Based on the significant difference found among boys, this portion of the third hypothesis must be rejected.

TABLE 1

SUMMARY OF *t* TEST FOR SIGNIFICANCE UPON TOTAL RAW SCORES ON THE TEST OF READING OF SECOND-GRADE EXPERIMENTAL AND CONTROL GROUPS (N = 81)

	Experimental	Control
Mean scores	35.51	35.35
Standard deviations	10.89	12.33
Standard error of means	1.70	1.95
Difference between means	.16	
t Ratio	.0628**	

**Not significant at the $p < 0.05$ level.

TABLE 2

SUMMARY OF *t* TEST FOR SIGNIFICANCE UPON TOTAL RAW SCORES ON THE TEST OF READING OF THIRD-GRADE EXPERIMENTAL AND CONTROL GROUPS (N = 79)

	Experimental	Control
Mean scores	61.16	56.06
Standard deviations	21.00	7.47
Standard error of means	3.20	1.25
Difference between means	5.10	
t Ratio	1.3844**	

**Not significant at the $p < 0.05$ level.

TABLE 3

SUMMARY OF F TEST FOR SIGNIFICANCE UPON TOTAL RAW SCORES ON THE TEST OF READING OF ALL BOYS AND ALL GIRLS (N = 160)

	Boys		Girls		
	Experimental N=41	Control N=43	Experimental N=43	Control N=33	F ratio
Mean scores	47.80	40.00	49.4419	50.6970	2.71*
Standard deviations	19.63	15.62	23.65	14.93	
Standard error of means	3.07	2.38	3.61	2.60	
Difference between means	7.80		1.26		

*Significant at the $p < 0.05$ level.

Difference between second-grade experimental classes having two bilingual teachers and those having one bilingual and one monolingual teacher. The fourth hypothesis was concerned with a significant difference between total reading scores between second-grade students in a bilingual class having two bilingual teachers and those in a bilingual class having one bilingual and one monolingual teacher. From Table 4 it can be seen that there was no significant difference between the groups (t = .2919, df = 39; $p < 0.05$). Since no significant difference in reading achievement between the groups was found, the fourth hypothesis was not rejected.

Difference between third-grade experimental classes having two bilingual teachers and those having one bilingual and one monolingual teacher. The fifth hypothesis raised the question of a significant difference between means in total reading scores between third-grade students in a bilingual class having two bilingual teachers and those in a bilingual class having one bilingual and one monolingual teacher. Table 5 shows that there was a significant difference between the groups (t = 5.3625, df = 41; $p < 0.05$). Since there was a significant difference in reading achievement between the groups, the fifth hypothesis must be rejected.

TABLE 4

SUMMARY OF *t* TEST UPON TOTAL RAW SCORES OF SECOND-GRADE EXPERIMENTAL STUDENTS HAVING TWO BILINGUAL TEACHERS AND THOSE HAVING ONE BILINGUAL AND ONE MONOLINGUAL TEACHER (N = 41)

	Experimental	Control
Mean scores	35.96	34.96
Standard deviations	10.14	12.07
Standard error of means	2.11	2.84
Difference between means	1.00	
t Ratio	0.2919**	

**Not significant at the $p < 0.05$ level.

TABLE 5

SUMMARY OF *t* TEST UPON TOTAL RAW SCORES OF THIRD-GRADE EXPERIMENTAL STUDENTS HAVING TWO BILINGUAL TEACHERS AND THOSE HAVING ONE BILINGUAL AND ONE MONOLINGUAL TEACHER (N = 43)

	Experimental	Control
Mean scores	74.18	47.52
Standard deviations	17.06	15.45
Standard error of means	3.64	3.37
Difference between means	26.66	
t Ratio	5.3625*	

*Significant at the $p < 0.05$ level.

Discussion

Most of the results of this study were in direct contrast with those found by Bertha Trevino's study, which was similar in nature. When the experimenter compared the second- and third-grade experimental and control groups, it was found that there were no significant differences between those students who had received bilingual instruction, and those who had not received such training. Conversely, Trevino (1970) had found a marked improvement for first-grade bilingual groups, and dramatic improvement by the end of the third year of bilingual instruction.

The difference in results between the present study and Trevino's was due, in part, to the fact that the populations were different. In Trevino's study the bilingual group was evenly divided between English monolinguals and Spanish monolinguals, the idea being that the English monolinguals would set examples of speech patterns which the Spanish monolinguals would imitate. In the present study, the groups were composed of Spanish-English bilinguals or Spanish-monolinguals who did not have as much opportunity to hear English speech patterns from their English classmates.

The present study was in partial agreement with Horn's 1966 study in which he compared the effectiveness of three methods of developing reading readiness in

Spanish-speaking boys and girls: (a) oral-aural English, (b) oral-aural Spanish, and (c) no oral-aural treatment. There was no significant difference in mean scores when comparing the three methods.

One part of the present study that was in no way related to Trevino's (1970) was the comparison of experimental classes having two bilingual teachers and experimental classes having one bilingual and one monolingual teacher. On the second-grade level, no significant difference occurred. However, on the third-grade level, there were significant results. The third-grade experimental class having two bilingual teachers achieved reading scores that were significantly higher than the third-grade experimental class having only one bilingual and one monolingual teacher.

It may be inferred that the linguistic ability of the teachers was a possible reason for the significant difference between groups, but it could also be due to other factors that were not controlled. For example, the personality and expertise of the teacher in each class may be possible factors in the success of one group over the other. It is almost impossible to control this variable, unless an investigator is permitted to sit in on the class and continually observe the teacher. Even then, the teacher would probably be teaching differently from her

usual performance because she was being observed.

One reason why a significant difference did not occur in second grade could be explained by the fact that second-grade students in the experimental classes had received bilingual instruction for two years, while third-grade students had received bilingual instruction for three years. This additional year of bilingual instruction could be a factor in the improved performance of the experimental third-grade class having two bilingual teachers. This finding concurred with that of Kittell (1963), who discovered that the language handicap suffered by bilingual children at the third-grade level was significantly less important at the fifth-grade level after two years of additional bilingual instruction. Thus, it appeared that continued bilingual instruction would serve to increase proficiency in the second language.

The results in this study did not lend complete support to the findings of previous related research studies, although in some ways the findings were closely related. Certain aspects of the present study did uncover several variables that might be taken into account in future studies of this nature. One such finding was the fact that a significant difference was found when boys were compared with boys, but not when girls were compared

with girls. A further discussion of the results and conclusions are presented in Chapter V.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this chapter was to summarize the study, state conclusions found regarding the hypotheses, and suggest possibilities for further research.

Summary

The study was designed to determine whether there would be any significant differences in reading achievement between second- and third-grade students, who have had bilingual reading instruction in the primary grades, and second- and third-grade students not in the program as shown by performance on the Test of Reading: Inter-American Series. More specifically, a determination was to be made whether a significant difference existed between the following:

1. Second-graders in the program and those not in the program;
2. Third-graders in the program and those not in the program;
3. Boys in the program and those not in the program, and girls in the program and those not in the program;

4. Second-graders in a bilingual class having two bilingual teachers and those in a bilingual class having one bilingual and one monolingual teacher;
5. Third-graders in a bilingual class having two bilingual teachers and those in a bilingual class having one bilingual and one monolingual teacher.

One hundred sixty, second- and third-grade students from one school in Perth Amboy, New Jersey, comprised the population used in the study. The four experimental classes received bilingual reading instruction while the four control classes in the same school did not. Performance on an English reading test of both the experimental and control groups were analyzed.

For determining the equality of the class groups, t tests were performed using the raw scores of the Metropolitan Readiness Test, and the Lorge-Thorndike Intelligence Test. The results showed no significant difference.

For the collecting of data, all subjects were administered the Test of Reading: Inter-American Series. For the purpose of analyzing the data, t tests were used. There was a significant difference between boys in the experimental group and boys in the control group. There was also a significant difference between third-graders in

an experimental class having two bilingual teachers and third-graders in an experimental class having one bilingual teacher and one monolingual teacher.

Conclusions

Conclusions made as a result of the statistical analysis were:

1. The null hypotheses that there were no significant differences between means in reading scores of second-grade and third-grade students who have received bilingual reading instruction in the primary grades and those who have not received such training were upheld. Thus, the training received by the experimental group did not produce greater proficiency in reading in English.

2. Although there was no significant difference between means when girls were compared with girls, boys in the experimental group did achieve reading scores that were higher than boys in the control group. Therefore, the null hypothesis that there were no significant differences between means when boys were compared with boys and girls were compared with girls was partially rejected. The fact that boys in the experimental group achieved significantly higher scores than boys in the control group raises interesting questions. It is possible that bilingual training for boys in this age group could be critical. It is also possible that teacher variability could have

accounted for this difference. These questions could not be answered within the framework of the present study, but could provide bases for future research.

3. The null hypothesis that there was no significant difference between means in reading scores between second-grade students in a bilingual class having two bilingual teachers and those in a bilingual class having one bilingual and one monolingual teacher was not rejected. Thus, the training received by second-grade students in a bilingual class having two bilingual teachers did not produce a proficiency in reading in English that was greater than that achieved by second-grade students in a class having one bilingual and one monolingual teacher.

4. Because the third-grade students in a bilingual class having two bilingual teachers did achieve reading scores that were higher than third-grade students having one bilingual and one monolingual teacher, the null hypothesis that there was no significant difference between third graders having two bilingual teachers and those having one bilingual and one monolingual teacher was rejected. Since no significant results were found at the second-grade level, it is very possible that continued bilingual instruction given by bilingual teachers will produce superior results.

The results that there were no significant

differences between second- and third-grade students in bilingual classes and those not in the program does have certain implications for administrators of bilingual programs. Because there were many examples in the literature that bilingual programs can and do work, failures should be reassessed and reorganized to locate the deficiencies. The course of instruction, quality of teachers, and availability of suitable materials must be examined.

The fact that the third-grade experimental class having two bilingual teachers did achieve reading scores that were higher than those achieved by third-grade students having one bilingual and one monolingual teacher, leads to the conclusion that, perhaps, it was the linguistic ability of the teachers that caused this difference.

From the results of this study, it could be concluded that bilingual training does not guarantee significantly superior achievement in reading in English.

Suggestions for Further Research

Since there were some significant differences in two of the areas investigated in the study, there is a need for similar studies to examine further the success or failure of bilingual programs in all parts of the country. Unfortunately, there have been few carefully designed experimental studies concerned with trying to find out the best methods to help bilingual children.

More research in this field is desperately needed.

Since the findings in the present study that showed higher achievement of the students in the classes having only bilingual teachers were upheld, it could be suggested that only bilingual teachers should teach bilingual classes. Perhaps more research in this area will discover that the bilingual teacher herself is the important catalyst in the success of the bilingual program. In this way, she would be better equipped to answer questions, explain directions, and compare meanings in both languages, in an effort to meet the needs of bilingual students better.

Although the present study did not support the success of the total bilingual reading program in Perth Amboy, it did open new areas for further research. It is recommended that a follow-up study be conducted in the future to reevaluate the long-range effects of bilingual instruction in the first three grades.

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APPENDIX A

DISTRIBUTION OF PUPILS IN EXPERIMENTAL AND CONTROL GROUPS ACCORDING TO GRADE AND SEX

Subjects	Experimental			Control		
	Boys	Girls	Total	Boys	Girls	Total
Second Grade A	7	11	18			
Second Grade B	11	12	23			
Second Grade C				13	8	21
Second Grade D				12	7	19
Third Grade A	11	10	21			
Third Grade B	12	10	22			
Third Grade C				8	10	18
Third Grade D				10	8	18
Total	41	43	84	43	33	76

APPENDIX B

LETTER FROM PRINCIPAL VERIFYING RANDOMIZATION OF STUDY GROUPS

School #10
Perth Amboy, New Jersey
January 8, 1973

Dr. Joseph Zelnick
Reading Center
Rutgers - The State University
New Brunswick, New Jersey

Dear Dr. Zelnick:

This letter concerns the research study conducted by Helen Huzar in School #10. The study compared the reading achievement of students in classes receiving bilingual reading instruction and those who did not receive such instruction. These students, those who received bilingual reading instruction and those who did not, to the best of my knowledge as principal of School #10, were grouped on a random basis.

Yours truly,

William J Convery

William J. Convery
Principal

William J. Convery

APPENDIX C

SAMPLE OF TEST USED IN THE STUDY

Test of Reading, Level 2-Primary-Form CE, Inter-American Studies, R-2-CE copyrighted 1962 by Herschel T. Manuel. Removed because of copyright restrictions.

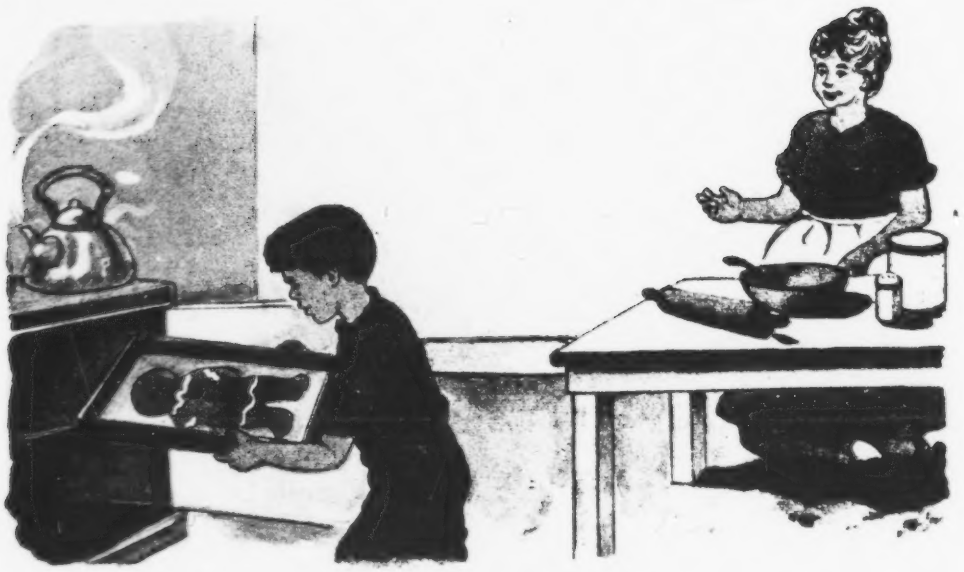
APPENDIX D

SAMPLE PAGES OF TEXTBOOKS USED BY THE EXPERIMENTAL GROUP

Chuck, Tod, Chub, and Kid are getting a drink. Nat the Rat is getting a drink.

But Tiff is not getting a drink yet. He is telling Nat, "We're going camping. We're going camping."

"You're going camping! Can I go with you?"



El Niño de Pan de Jengibre

Pedrito vivía con sus padres en el campo. Unas veces ayudaba a su mamá en la casa. Otras, corría solo por cerros y montes.

Un día su mamá le dijo: —Voy a hacer un pan de jengibre en el horno. Parecerá un niño vivo. ¿Puedes ayudarme?

—Con mucho gusto, mamá.

THE EFFECTS OF AN ENGLISH-SPANISH PRIMARY-GRADE READING PROGRAM ON SECOND- AND THIRD-GRADE STUDENTS

AN ABSTRACT OF A THESIS

SUBMITTED TO THE FACULTY

OF THE GRADUATE SCHOOL OF EDUCATION

OF

RUTGERS UNIVERSITY

THE STATE UNIVERSITY OF NEW JERSEY

BY

HELEN HUZAR

IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE DEGREE

OF

MASTER OF EDUCATION

COMMITTEE CHAIRMAN: JOSEPH ZELNICK

NEW BRUNSWICK, NEW JERSEY MAY 1973

ABSTRACT

This study sought to determine whether there would be any significant differences in the scores on an English reading test between second- and third-grade students in the Perth Amboy bilingual program and second- and third-grade students in the same school, but not in the program.

The population of the study was 160 predominantly disadvantaged Puerto Rican students in one school in Perth Amboy, New Jersey. The subjects were described according to their reading readiness test scores, ages, grades, and sexes. In addition, third-grade students were also described according to their intelligence test scores.

The experimental group, which comprised second-graders and third-graders, received bilingual reading instruction for two and three years, respectively. The control group received instruction in English only. All subjects were administered the Test of Reading: Inter-American Series to determine any significant differences in reading achievement. A posttest-only control group design was used.

The *t* tests revealed no significant differences between the experimental and control groups for both second and third grade. However, a *t* test revealed that the boys in the experimental group received scores that were significantly higher than the boys in the control group.

No significant difference was found among girls. Third-grade students in bilingual classes having two bilingual teachers received significantly higher scores than those having one bilingual and one monolingual teacher. No significant difference was found in second grade.

The results of the study indicated that the program was partially successful in meeting the needs of bilingual students. However, certain questions remained unanswered. To what extent was teacher variability significant? Why did boys in the experimental group achieve significantly higher scores than boys in the control group? What are the long-range effects of bilingual instruction for Spanish-speaking children in the primary grades? These questions have implications for further research.

COURSE WORK FOR MASTER'S DEGREE IN READING

Fall, 1969		Instructor
299:561	Foundations of Reading Instruction	Dr. Fry
Spring, 1970		
299:564	Remedial Reading	Dr. Fry
Summer, 1970		
290:501	Introduction to Principles of Measurements	Dr. Pascale
310:415	Introduction to Philosophy of Education	Dr. Chambliss
Fall, 1970		
290:513	Introduction to Early and Middle Childhood	Dr. Gormly
299:565	Laboratory in Remedial Reading	Dr. Swalm
Spring, 1971		
290:519	Psychology of the Exceptional Child	Dr. Holowinsky
290:540	Introduction to Learning	Dr. Cox
Summer, 1971		
610:581	Reading Materials for Children (K-6)	Dr. Van Orden
Fall, 1971		
299:510	Reading and Communication in Education	Dr. Shew
Spring, 1972		
299:566	Seminar in Reading Research and Supervision	Dr. Fry
Fall, 1972		
299:599	Thesis Research	Dr. Zelnick

VITA

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Educational Background:

High School:	St. Mary's High School Perth Amboy, New Jersey June, 1965
College:	Georgian Court College Lakewood, New Jersey B.S., 1969, Magna Cum Laude Elementary Education

Professional Experience:

1971-present:	Remedial Reading Teacher School #9 Perth Amboy, New Jersey
1971, 1972: summers	Reading/Language Development Teacher School #2 Perth Amboy, New Jersey
1969-1971:	Fifth-Grade Teacher Fourth-Grade Teacher School #10 Perth Amboy, New Jersey